*VIA FACSIMILE TRANSMISSION - Official*
*To Fax Number (703) 872-9306*
*Application No. 08/879,467*
*June 1, 2004*

In the Claims

The following listing of claims will replace all prior versions of the claims in this application.

**Listing of Claims**

Claims 1-18 (cancelled)

Claim 19 (previously presented): A coded image capture and decoding system comprising:

a capture system comprising:

an optical system that captures image data from coded targets, so as to generate a plurality of image data groups each representing information concerning a coded target as a whole;

a first processing circuit, coupled to the optical system, that generates a plurality of undecoded images each based on one of the image data groups received from the optical system, so that said plurality of undecoded images each represents information concerning a coded target as a whole; and

an image buffer, coupled to the first processing circuit, that stores said plurality of undecoded images generated by the first processing circuit; and

a host system, comprising:

a non-dedicated second processing circuit, for coupling to the image buffer, that, after said plurality of undecoded images each representing information concerning a coded target as a whole, are stored in the image buffer, after a request

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by the capture system, and with the non-dedicated second processing circuit having received the plurality of undecoded images from the image buffer so as to have the plurality of undecoded images available at a time for processing, attempts decode processing of said plurality of undecoded images.

Claim 20 (currently amended): A coded image capture and decoding system comprising:

a remote capture unit comprising:

an image buffer that stores a plurality of undecoded images each representative of [[a]] the same coded target; and

a host image processing unit operably coupled to the remote capture unit, the host image processing unit comprising:

a processing circuit operable to effect decoding of undecoded images; and

coded processing circuitry, communicatively coupled to the processing circuit, selectively directing the processing circuit to decode the plurality of undecoded images each representative of said the same coded target.

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Claim 21 (previously presented): A coded image capture and decoding system comprising:

(a) an optical system that captures image data from coded targets, so as to generate a plurality of image data groups each representing information concerning a coded target as a whole;

(b) a first processing system, coupled to the optical system, that supplies a plurality of undecoded images each based on one of the image data groups received from the optical system, so that said plurality of undecoded images each represents information concerning a coded target as a whole;

(c) an image buffer, coupled to the first processing system, that stores said plurality of undecoded images generated by the first processing circuit; and

(d) a non-dedicated second processing system, for coupling to the image buffer, that, after said plurality of undecoded images each representing information concerning a coded target as a whole, are stored in the image buffer, after a notification to the non-dedicated second processing system of the presence of said plurality of undecoded images in the image buffer, and with the non-dedicated second processing system having the plurality of undecoded images available at a time for processing, attempts decode processing of said plurality of undecoded images.

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Claim 22 (previously presented): The coded image capture and decoding system of claim 21 wherein said non-dedicated second processing system selectively attempts decode processing of each of said plurality of undecoded images in succession, while the optical system may be in a power saving state until expiration of a time interval before resuming image capture operation

Claim 23 (currently amended): [[A]] The coded image capture and decoding system of claim 21 wherein[[;]] said non-dedicated second processing system upon successful decoding of any one of the plurality of undecoded images ignores notification of a further plurality of undecoded images being in the image buffer where such further plurality of undecoded images may be of the same coded target from which an undecoded image has just been successfully decoded.

Claim 24 (currently amended): The coded image capture and decoding system of claim 21 wherein the optical system captures two-dimensional coded image data from the two dimensional code of a coded target, so as to generate a plurality of two-dimensional coded image data groups each representing information concerning the same two-dimensional code as a whole, the first processing system supplying a plurality of undecoded two-dimensional coded images each representing the same two-dimensional code; and the non-dedicated second processing system having said plurality of undecoded two-dimensional coded images available at one time for processing, attempts decode processing thereof.

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Claim 25 (previously presented): The coded image capture and decoding system of claim 21 wherein the first processing system supplies a reference undecoded image in its entirety, and a plurality of further undecoded images representing the differences of a plurality of image data groups from the reference undecoded image.

Claim 26 (currently amended): A coded image capture and decoding system comprising;

a capture unit comprising:

an image buffer that stores a plurality of undecoded images each representative of [[a]] the same coded target; and

a host image processing unit operably coupled to the capture unit, the host image processing unit comprising:

a processing circuit operable to effect decoding of undecoded images; and

coded processing circuitry, communicatively coupled to the processing circuit, selectively directing the processing circuit to decode the plurality of undecoded images each representative of said coded target.

Claim 27 (currently amended): The method of processing optically read two-dimensional code images from a two-dimensional code of a two-dimensional coded target, said method comprising

(a) assembling in an image buffer a plurality of undecoded two-dimensional code images each representing information concerning the same two-dimensional code as a whole;

(b) after assembly of the plurality of undecoded two-dimensional code images in the image buffer, signaling a non-dedicated processor capable of reading the two-dimensional code, to process the information in the image buffer; and

(c) the non-dedicated processor, after receipt of a signal that a plurality of undecoded two-dimensional code images are assembled in the image buffer, at a time selected by the non-dedicated processor, carrying out a decode processing which selectively includes processing of all of the plurality of undecoded two-dimensional code images in the image buffer.

Claim 28 (currently amended): The method of claim 27, wherein the optically read two-dimensional images are read from [[a]] the same two-dimensional optical code by a two-dimensional raster scanning laser system.

Claim 29 (currently amended): The method of claim 27, wherein the optically read two-dimensional images are read from [[a]] the same two-dimensional optical code by an array of photo detectors capable of capturing reflections from the entire two-dimensional coded target.

Claim 30 (currently amended): The method of claim 27, wherein at least five two-dimensional images are read from the same two-dimensional code of the two-dimensional coded target before the non-dedicated processor is signaled to process the information in the image buffer.

Claim 31 (currently amended): The method of claim 30, wherein the at least five two-dimensional images read from the same two-dimensional code are screened and only two-dimensional images meeting the screening requirements are assembled in the image buffer,

the non-dedicated processor not being signaled if less than two undecoded images have been assembled in the image buffer after screening of the at least five two-dimensional images.

Claim 32 (new): A coded image capture and decoding system comprising:

(a) a code capture system that has a field of view encompassing a complete optical code configuration so as to read optical information from a complete optical code configuration to be decoded, said code capture system generating sets of undecoded data from a plurality of optical readings of the same optical code configuration; and

(b) a processing system for receiving sets of undecoded data based on a plurality of optical readings of the same optical code configuration;

(c) said processing system thereby having available for decoding the received sets of undecoded data from a plurality of optical readings of the same code configuration and being operative to effect a decoding process that comprises utilizing the received sets of undecoded data from more than one optical reading of the same code configuration, to provide decoding of such code configuration.

Claim 33 (new): The coded image capture and decoding system of claim 32 wherein said processing system attempts simultaneous decoding of at least two received sets of undecoded data based on at least two optical readings of the same optical code configuration.

Claim 34 (new): The coded image capture and decoding system of claim 32 wherein said processing system being operative to effect a decoding process that comprises attempts to decode a first received set of undecoded data based on an optical reading of said optical code configuration, and if unsuccessful continues the decoding process by attempting to decode a second received set of undecoded data based on another optical reading of the same optical code configuration.

Claim 35 (new): The coded image capture and decoding system of claim 32 wherein at least one of the sets of undecoded data from the plurality of optical readings of the same code

configuration constitutes a reference image and at least one other of the sets of undecoded data constitutes a plurality of differences based on comparison with the reference image.

Claim 36 (new): The coded image capture and decoding system of claim 32 wherein the processing system constructs a composite image from the received sets of undecoded data from more than one optical reading of the same code configuration.

Claim 37 (new): The coded image capture and decoding system of claim 32 wherein a code capture control system is coupled with the code capture system, and comprises an actuator for initiating operation of the code capture system to generate sets of undecoded data from a plurality of optical readings of the same optical code configuration, and for terminating reading of optical information from an optical code configuration when a plurality of sets of undecoded data from a plurality of optical readings of the same optical code configuration have been generated.

Claim 38 (new): The coded image capture and decoding system of claim 37 wherein said actuator is actuated to initiate operation of the code capture control system, and the code capture control system automatically resumes generating sets of undecoded data from a further plurality of optical readings after a time delay, if the actuator remains actuated.

Claim 39 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration.

Claim 40 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, said code capture system transmitting to the processing system only those sets of undecoded data that appear to represent a valid optical

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code configuration, said code capture system transmitting sets of undecoded data only when the processing system has completed higher priority processing operations.

Claim 41 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system those sets of undecoded data that appear to represent a valid optical code configuration only if more than one set of undecoded data appears to represent a valid optical code configuration.

Claim 42 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system those sets of undecoded data that appear to represent a valid optical code configuration only if more than one set of undecoded data appears to represent a valid optical code configuration, and only when the processing system has completed higher priority processing operations.

Claim 43 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, and which transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, the screening system examining the number of transitions in each of the sets of undecoded data to evaluate such sets of undecoded data as appearing to represent a valid optical code configuration.

Claim 44 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, said screening system transmitting to the processing system only those sets of undecoded data that appear to

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represent a valid optical code configuration, said screening process comprising comparing the similarity of the plurality of sets of undecoded data.

Claim 45 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the length of the quiet zones of the plurality of sets of undecoded data.

Claim 46 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the length of the plurality of sets of undecoded data.

Claim 47 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration with respect to one of a plurality of code types.

Claim 48 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the contrast obtained from the optical readings of the optical code configuration.

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Claim 49 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the proximity to the optical code configuration during the optical readings of the optical code configuration.

Claim 50 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the image obtained from the respective optical readings of the optical code configuration.

Claim 51 (new): The coded image capture and decoding system of claim 32 wherein the code capture system comprises a screening system operative to apply a screening process for evaluating the sets of undecoded data as generated by the code capture system, and transmits to the processing system only those sets of undecoded data that appear to represent a valid optical code configuration, said screening process comprising evaluating the magnitude of reflections obtained from the optical code configuration.

Claim 52 (new): The coded image capture and decoding system of claim 32 wherein said processing system has the capability of simultaneously processing more than one set of undecoded data representing more than one optical reading of the same optical code configuration.